SUBSTITUTE SPECIFICATION

ROLLING BEARINGS

BACKGROUND OF THE INVENTION

【0001】 This invention relates to rolling bearings used for applications where lubricating conditions are severe or bending stress acts, such as bearings for rocker arms of automobiles.

【0002】 In recent years, in machines such as automobiles, for lower fuel consumption or freedom from maintenance, bearings are often operated under harsher lubricating conditions than before, e.g. with lubricating oil having low viscosity or used for a long period of time without renewing lubricating oil. In bearings used for applications where lubricating conditions are severe, a suitable oil film sometimes does not form between bearing rings and rolling elements, so that due to surface heat buildup or metallic contact, required life is not met.

【0003】 In particular, in full complement roller bearings, since the amount of lubricating oil supplied into between the bearing rings and the rollers tends to be insufficient, peeling from the surface of a bearing ring tends to occur. For example, in bearings for automotive rocker arms as shown in Fig. 1, which shows an embodiment of the present invention, or in